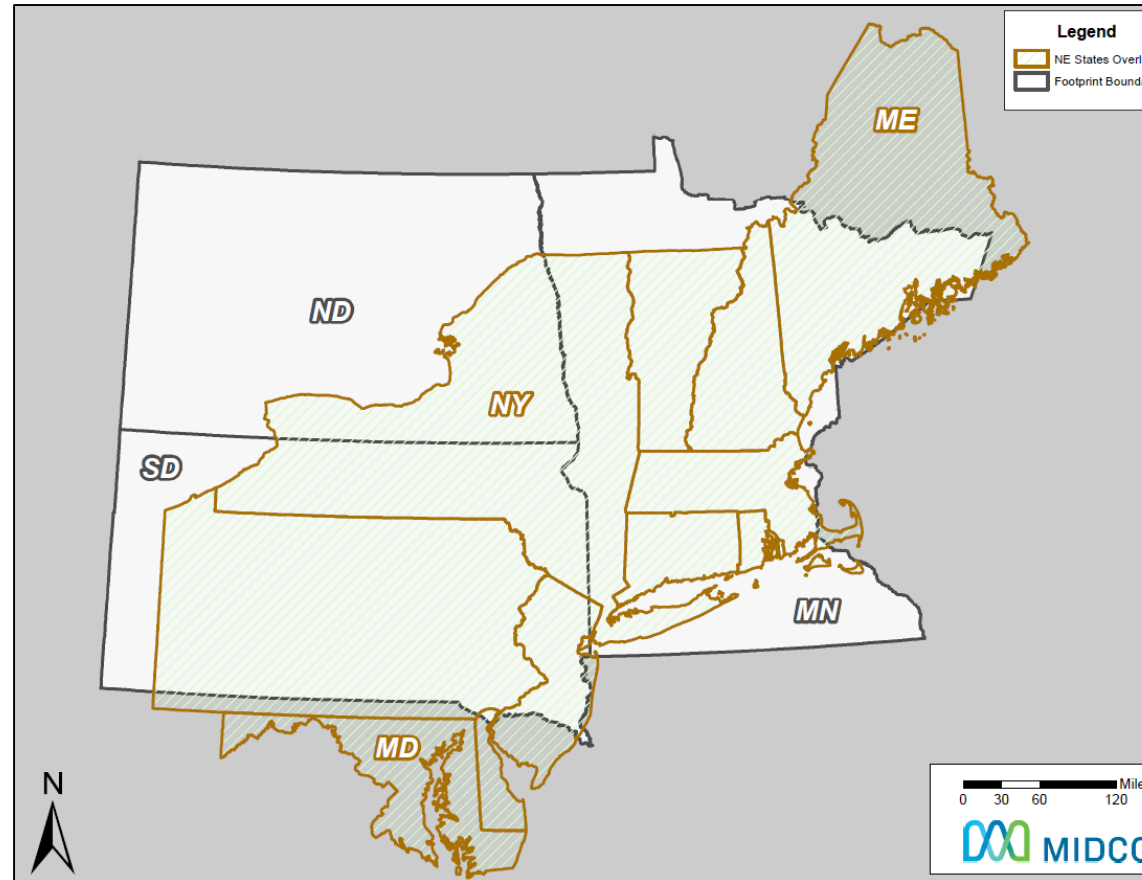

EBS & Rural Broadband

April 2019

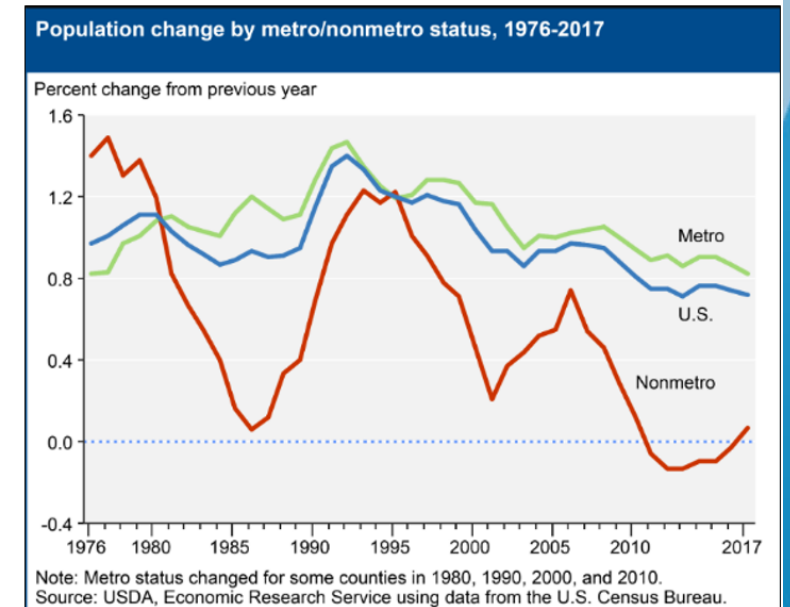
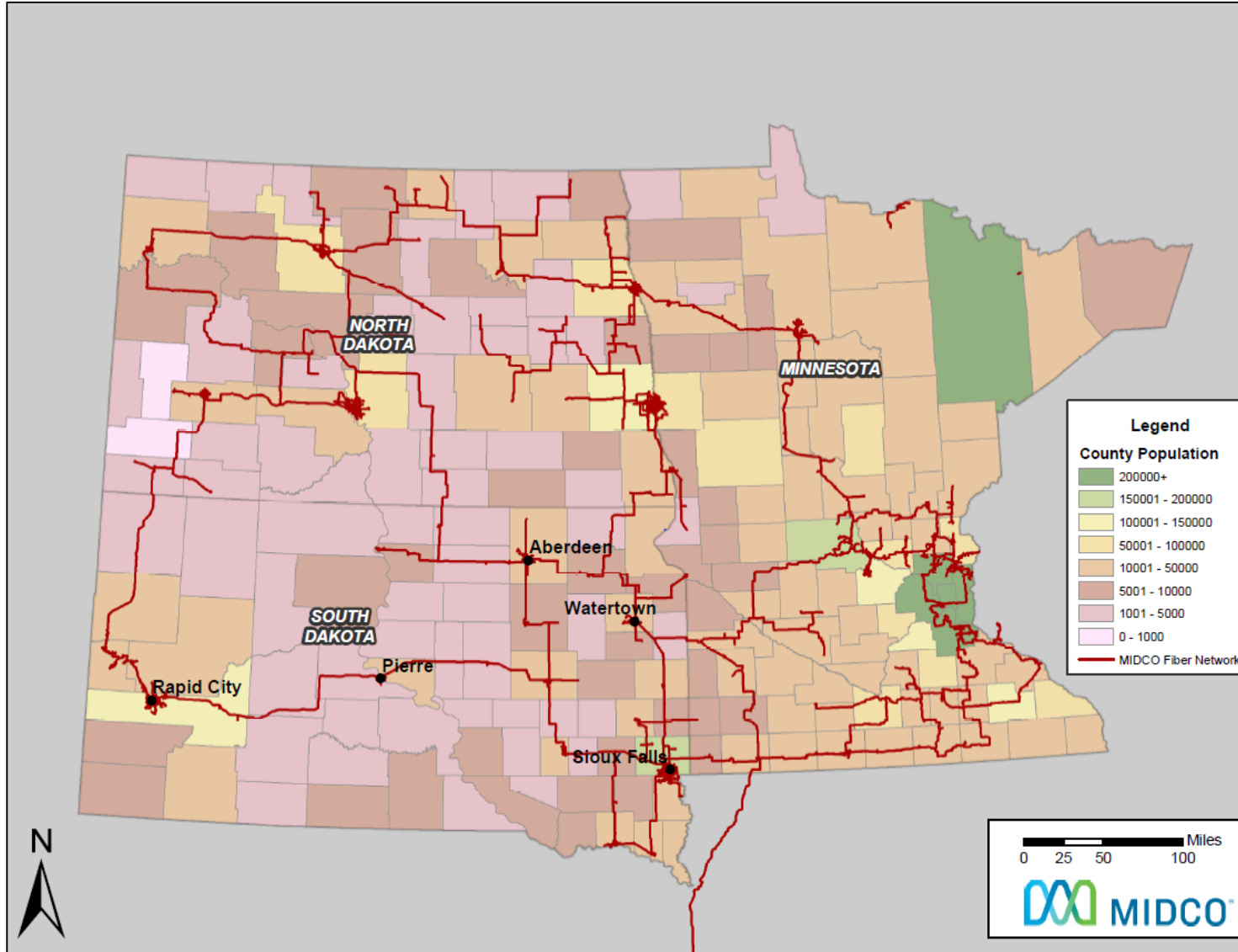


Rural Broadband

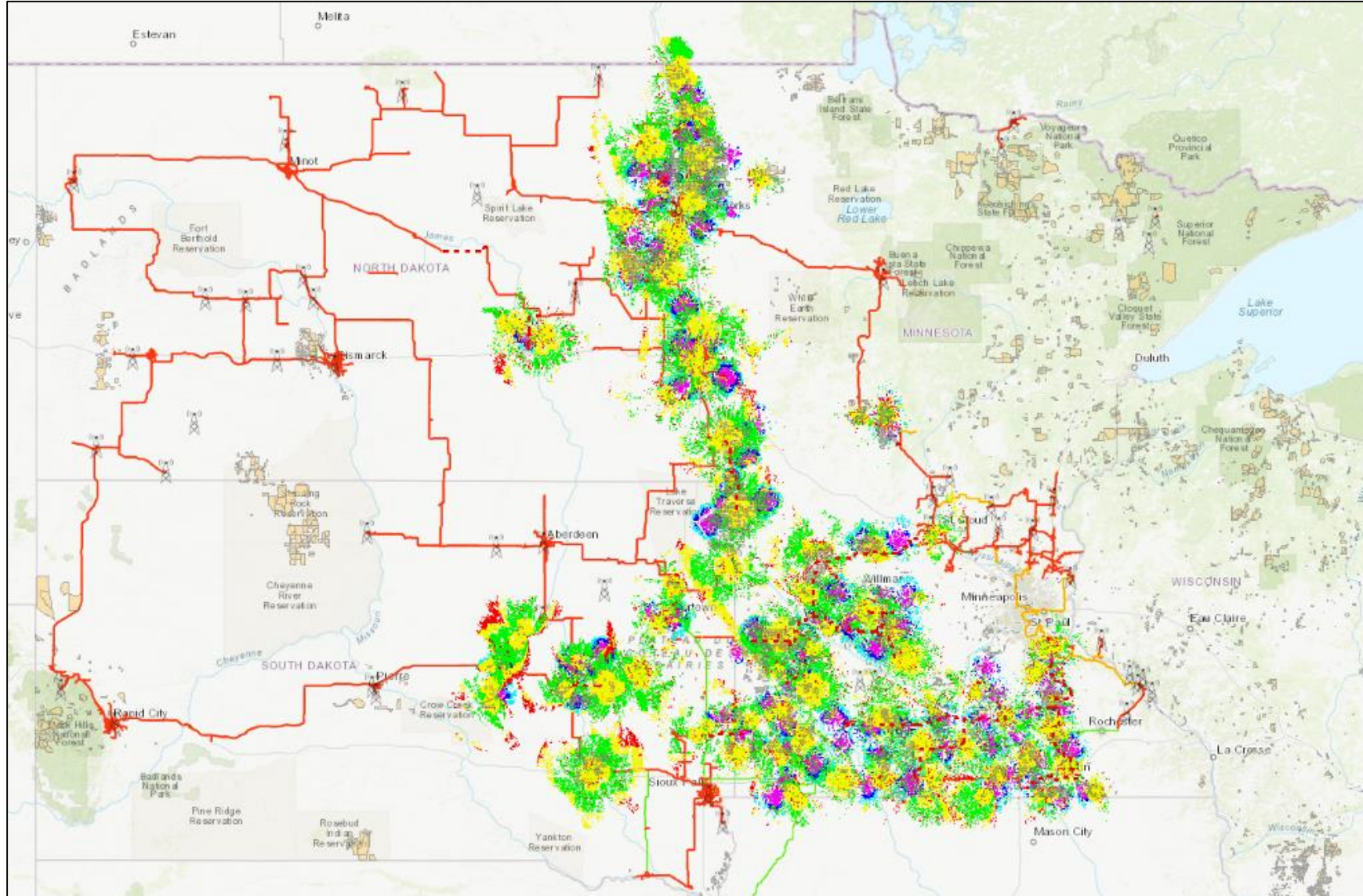
- Northeast population: approx. 61.2 million
- Midco footprint population: approx. 7.2 million



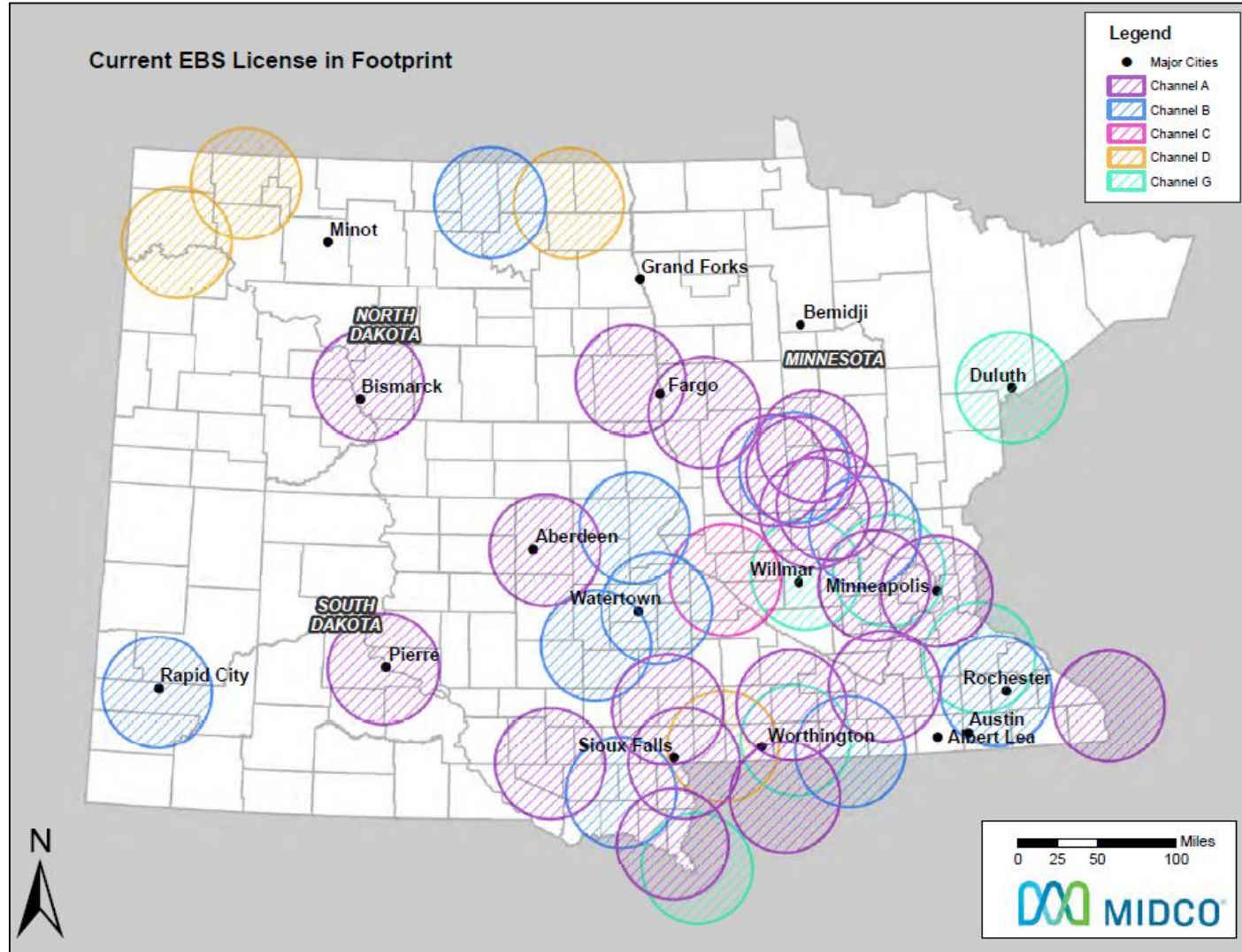
Low Density and Rural Flight



Midco Edge OutSM to Serve Rural America

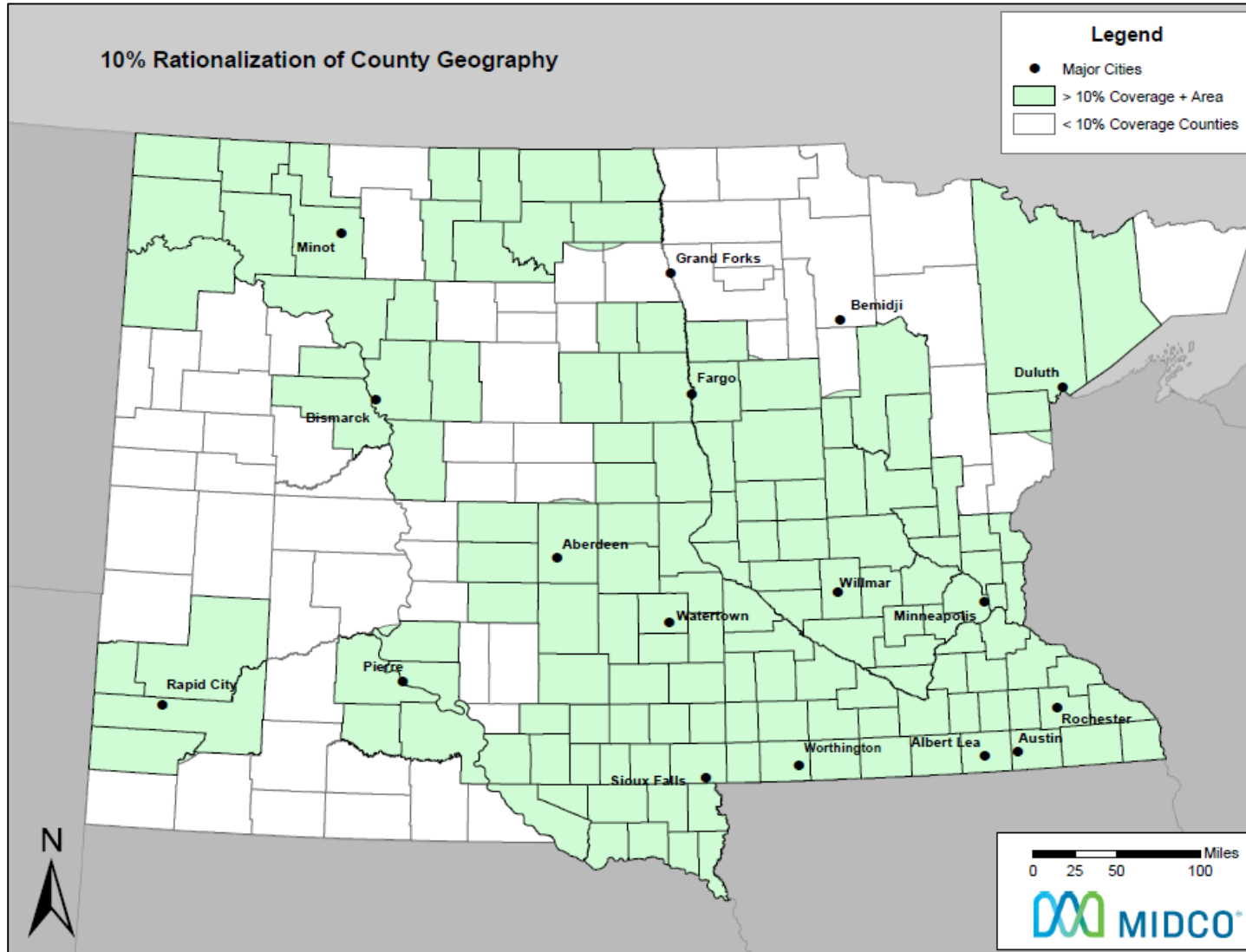


EBS White Space



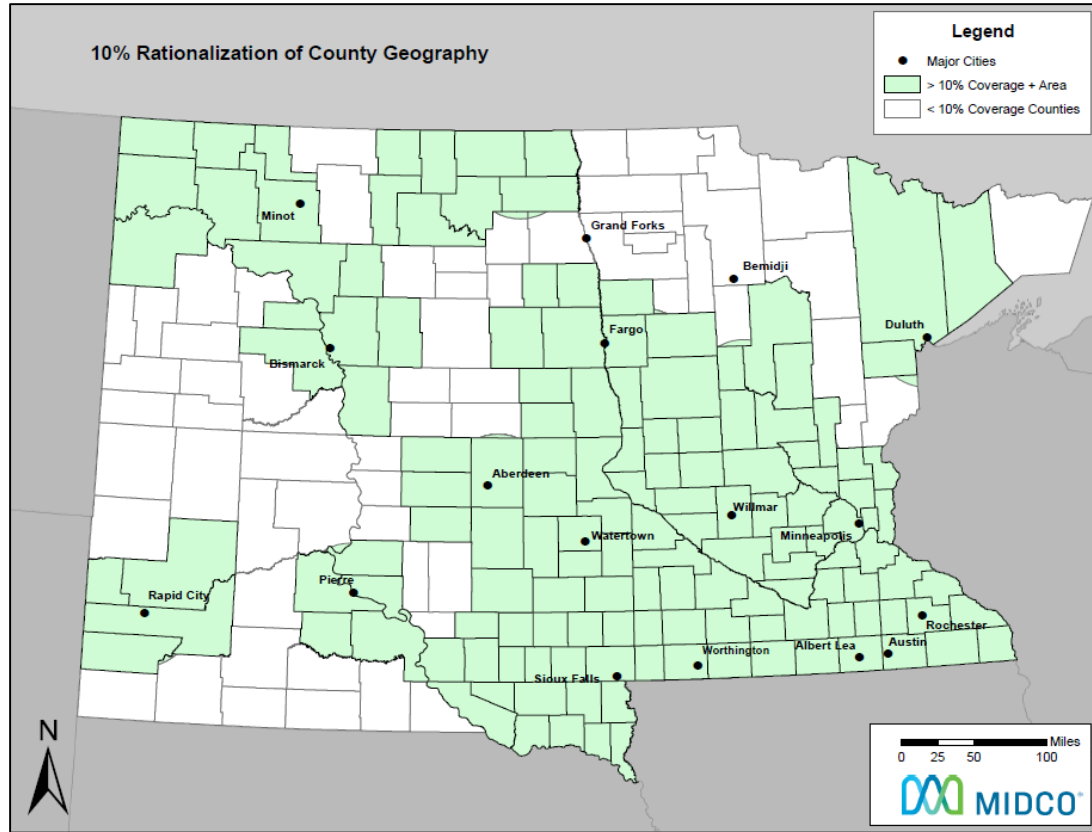
- 98% of licenses are commercial
- 61.2% of tristate area has EBS white space

10% Rationalization

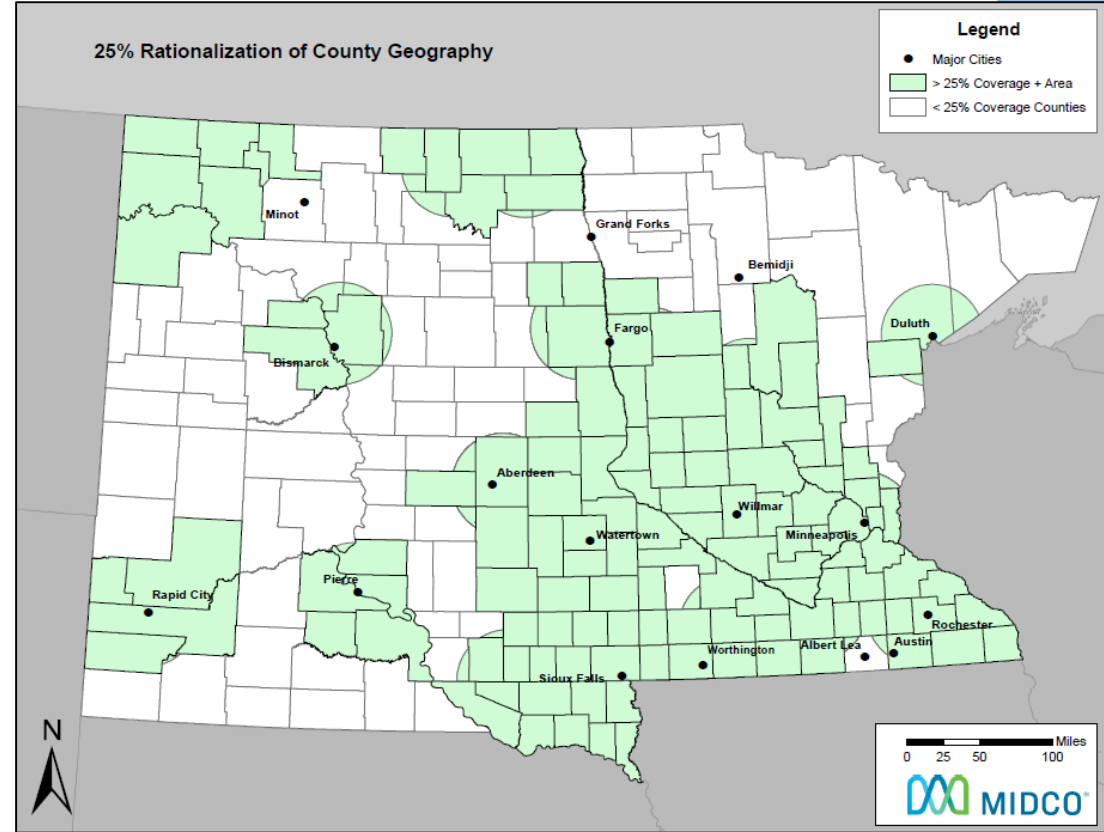


- Decrease white space in status quo by approximately 21%

10% v. 25% Rationalization

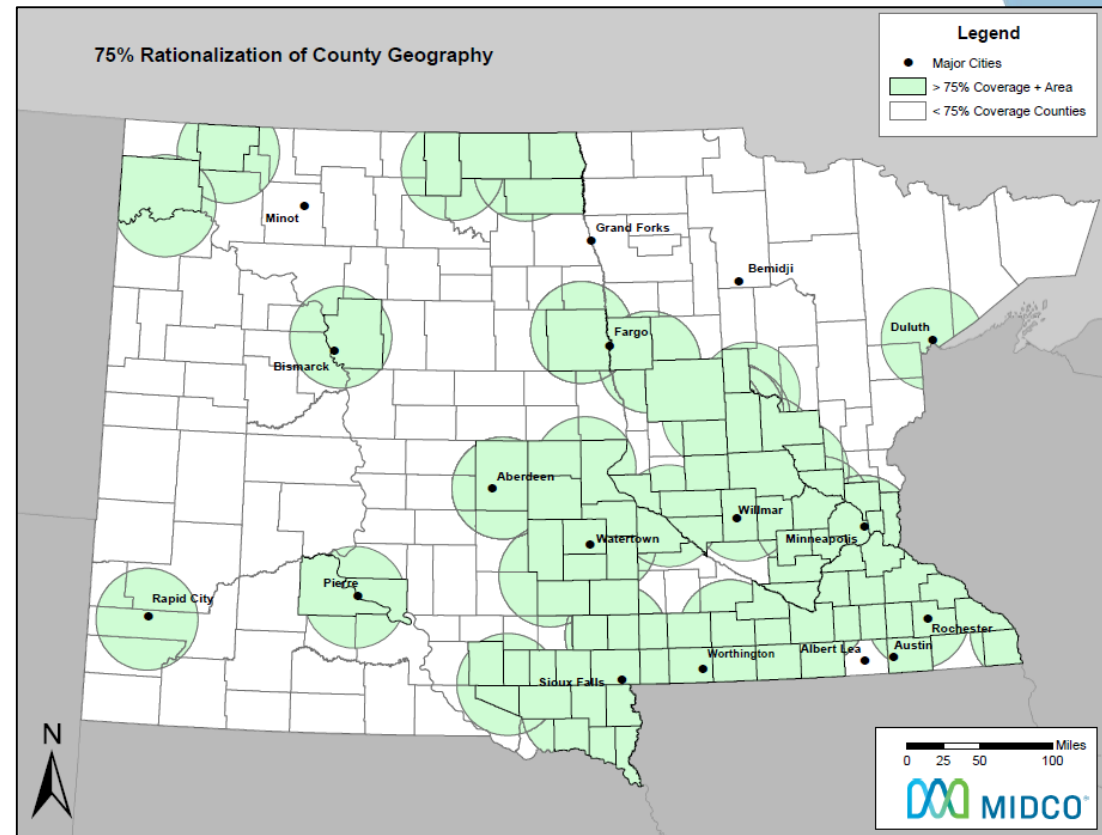
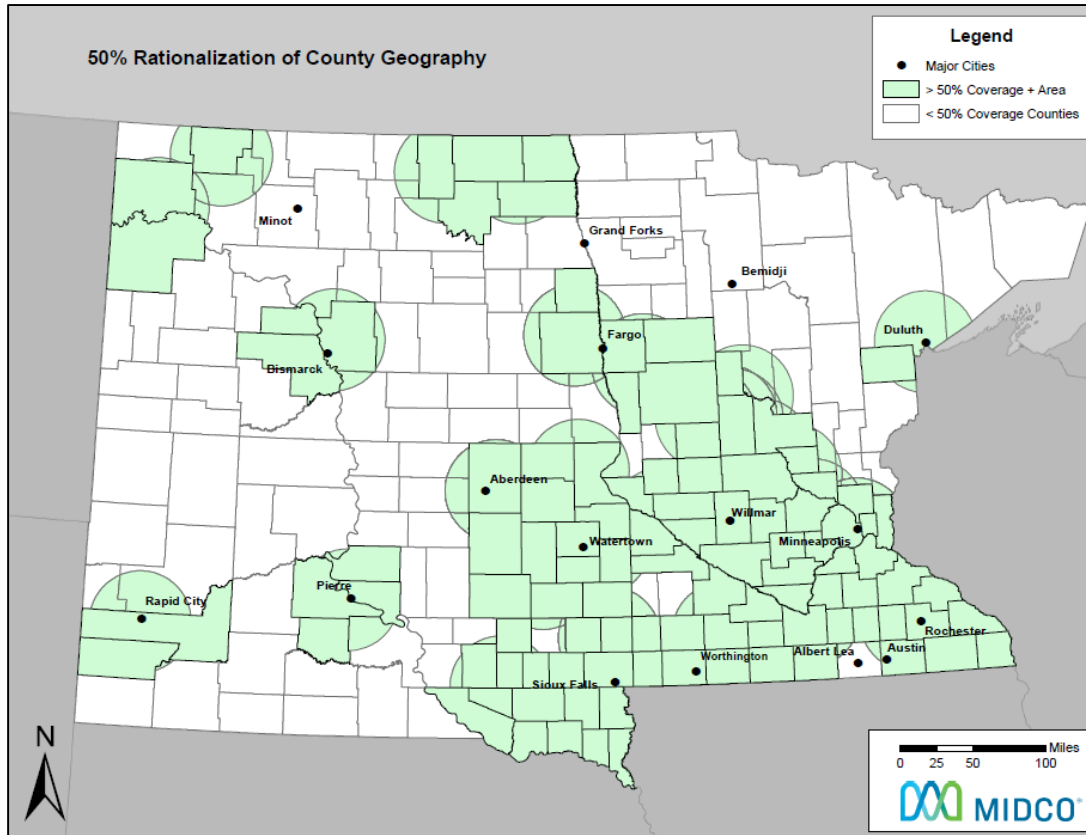


10% rationalization would decrease white space in status quo by approximately 21%



25% rationalization would decrease white space in status quo by approximately 13%

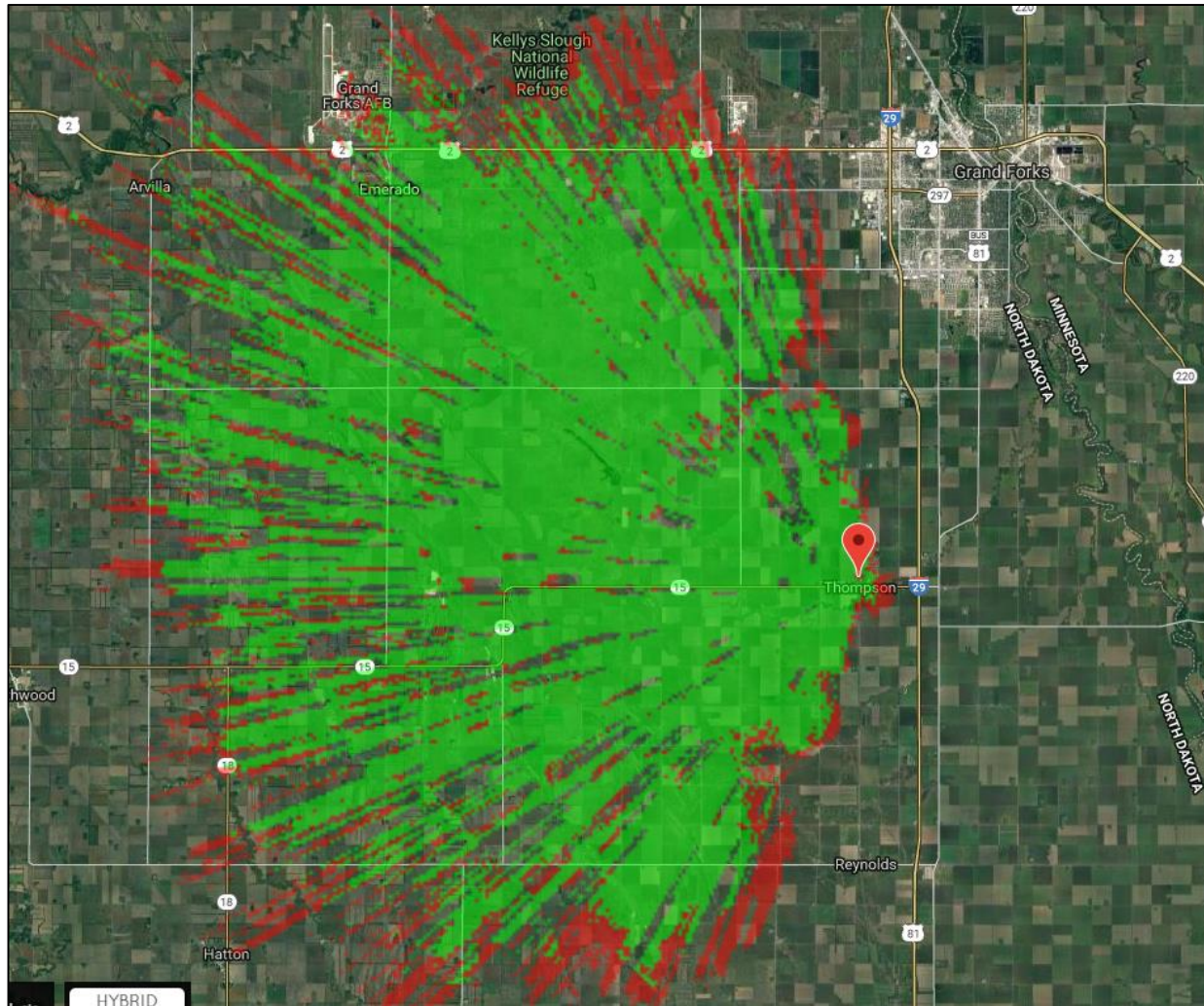
50% v. 75% or 85%



- Significant **gains** still for some incumbents for **free**
- Ex – Rapid City, SD & Bismarck, ND

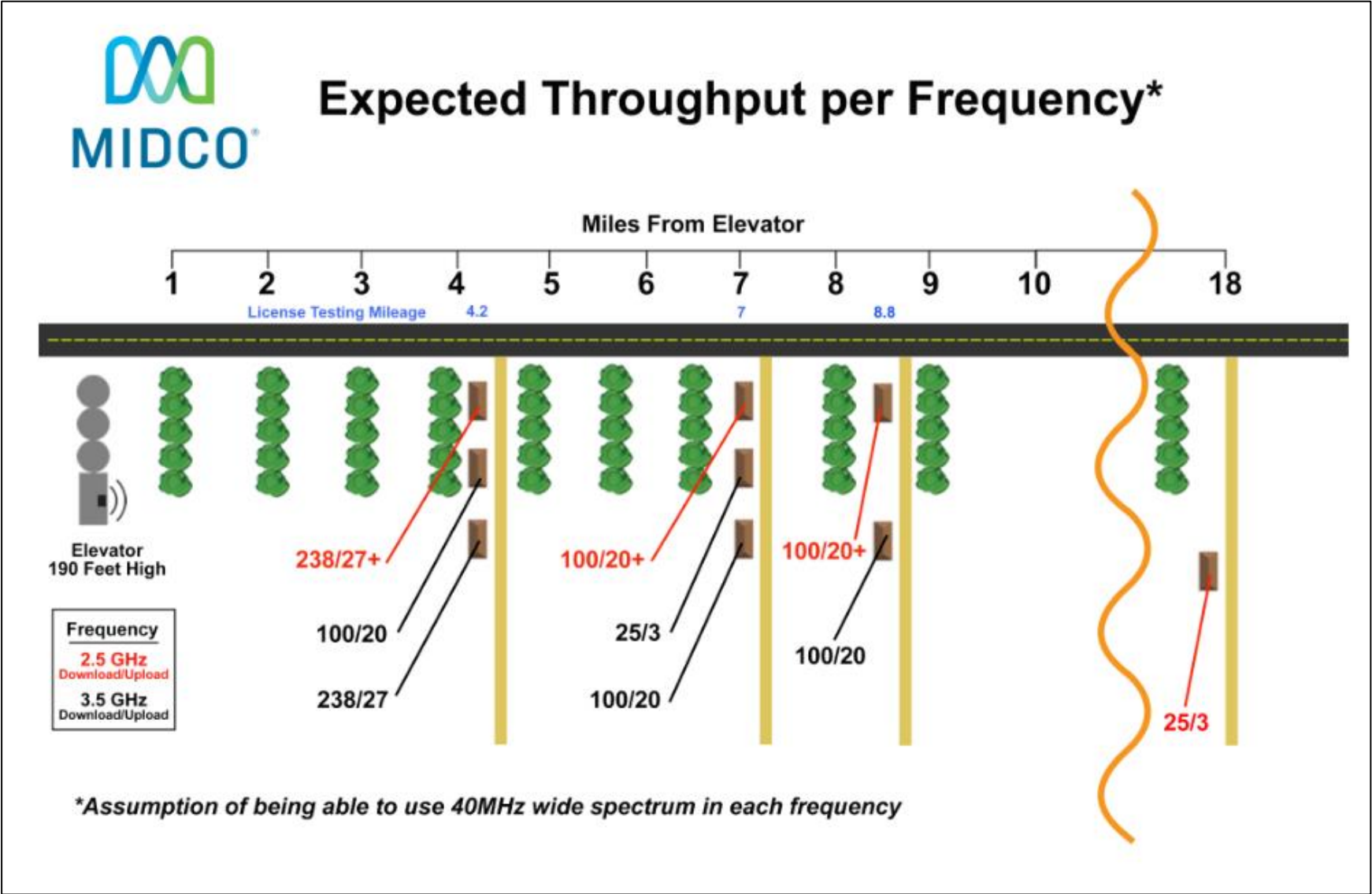
- 39.7% of counties would be covered compared to 38.8% currently
- Overlay auction for white spaces

Serve Rural America Now

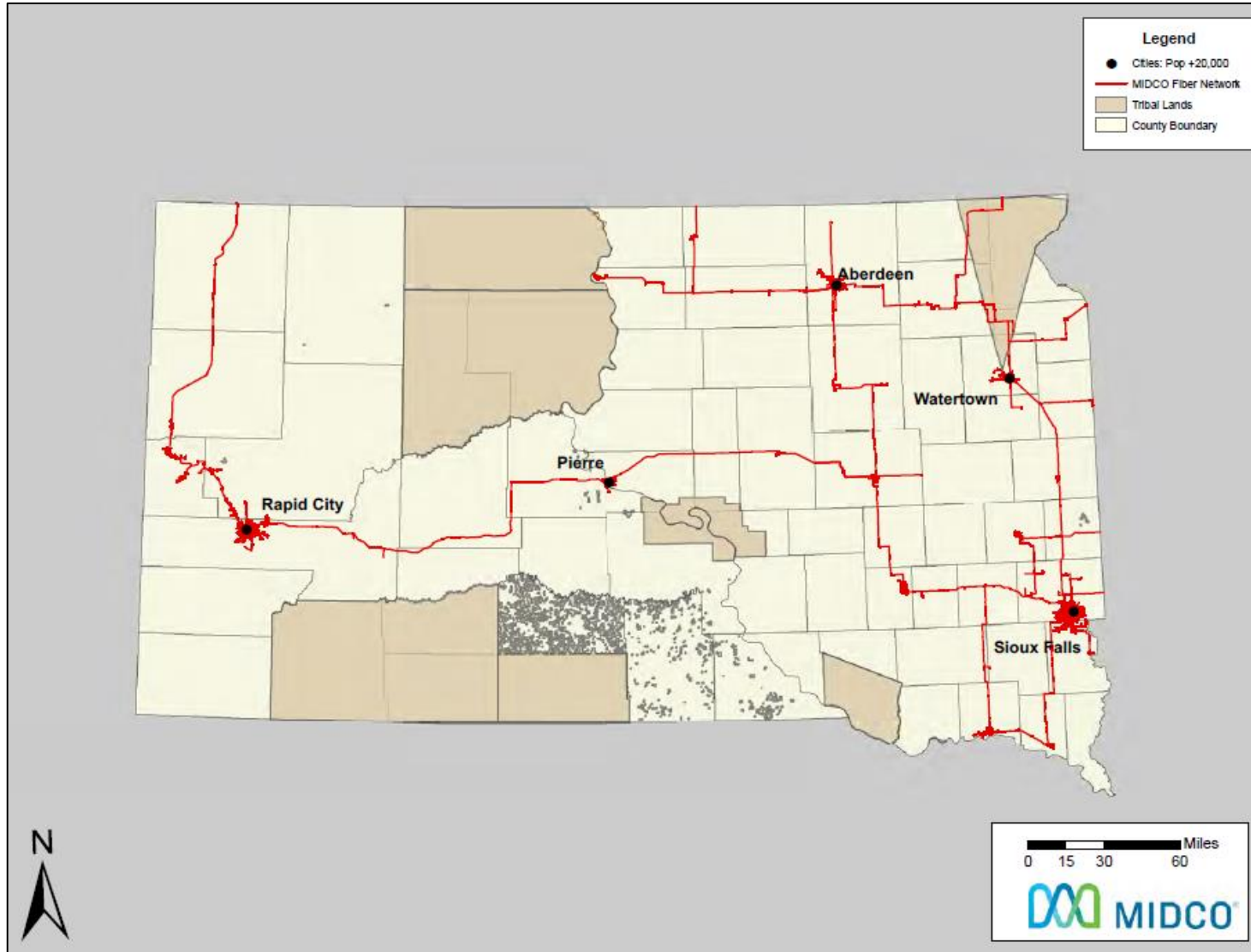


- “4.5G” or “next generation” LTE, carrier-grade equipment exists now for the 2.5 GHz band
- One sector would cover over 440 square miles
- Over 3,800 people would be covered with one sector

EBS Would Extend Our Coverage

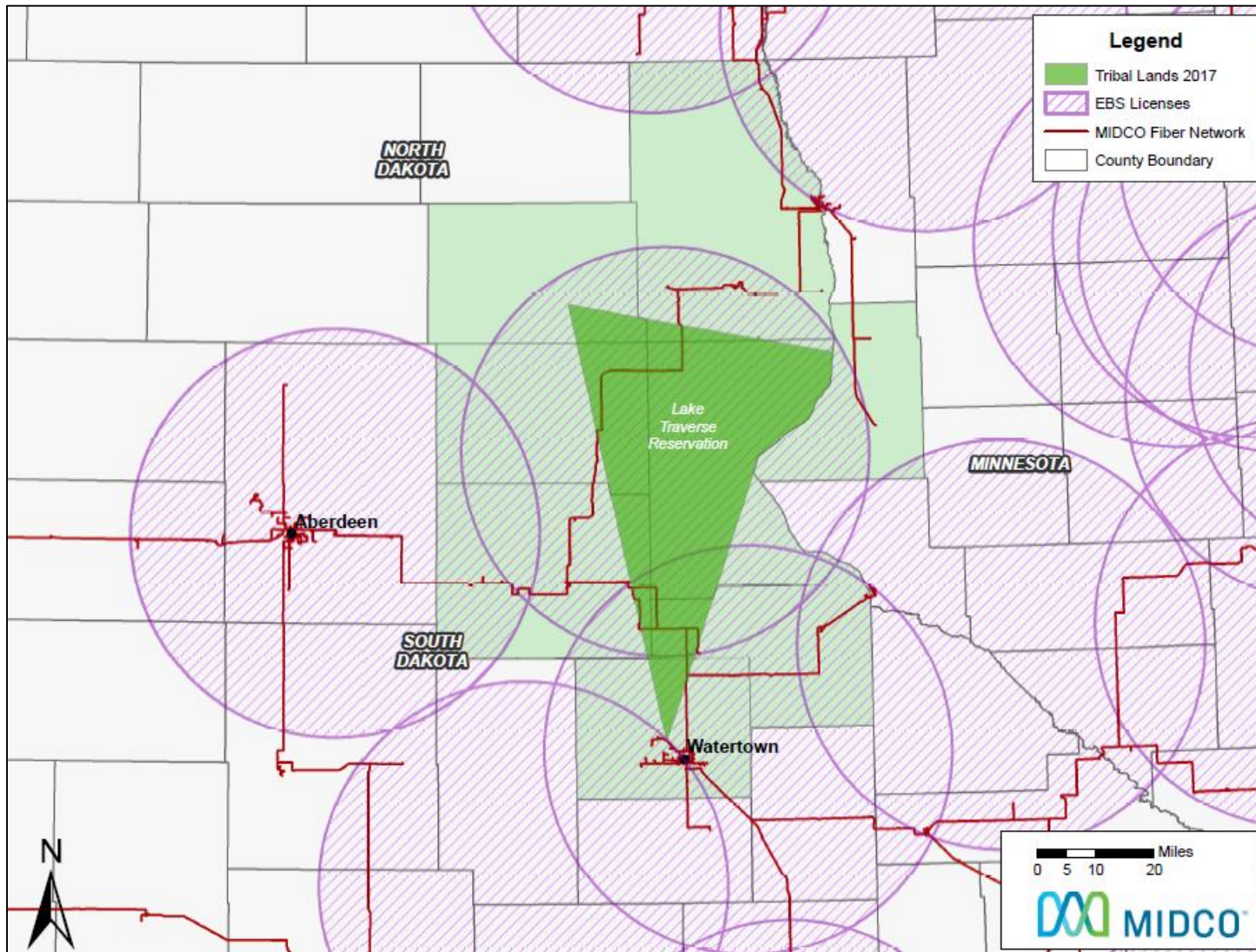


Local Priority Windows



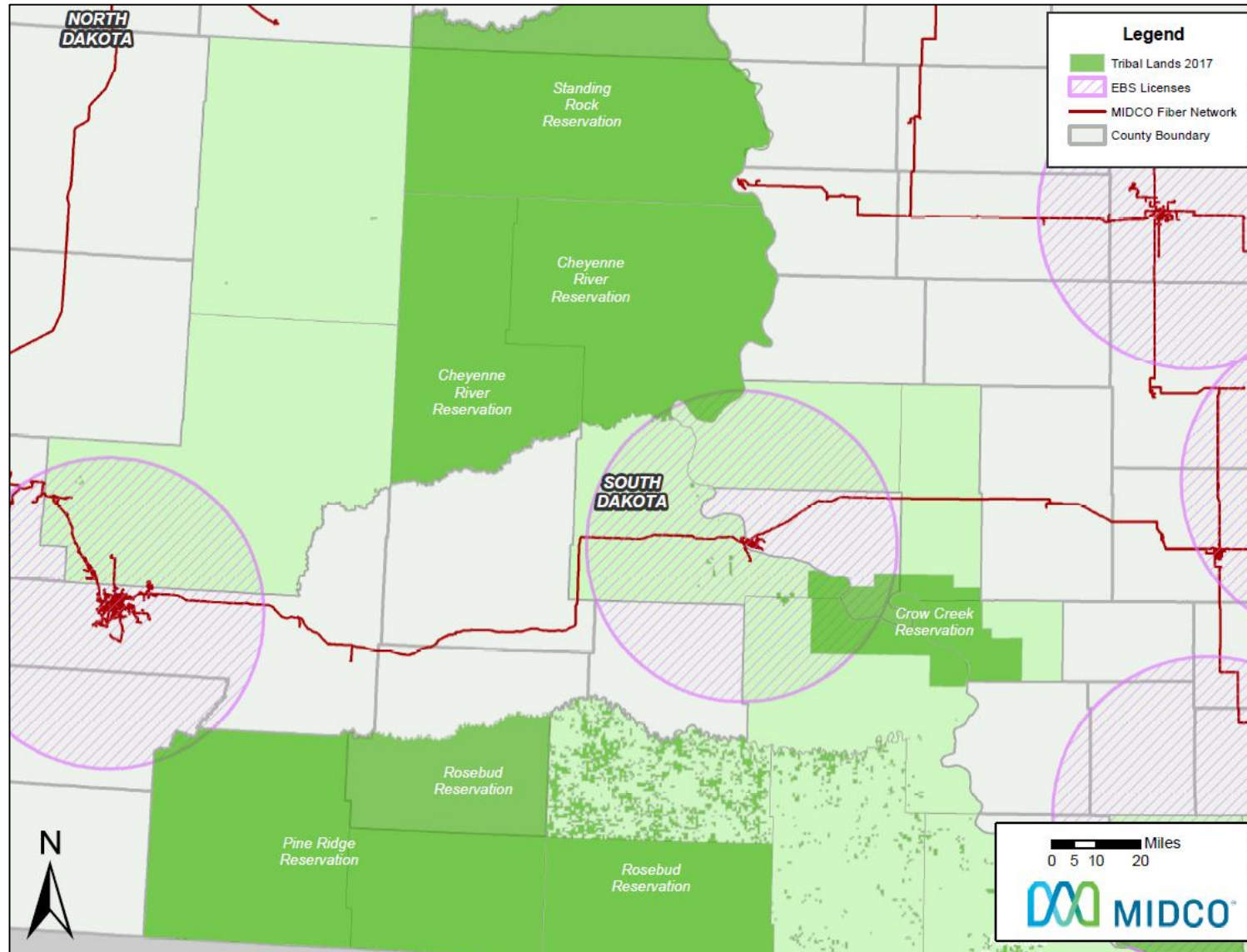
- Policy concerns on **any** local priority windows
- Continues a commercial cycle

Pragmatic Considerations

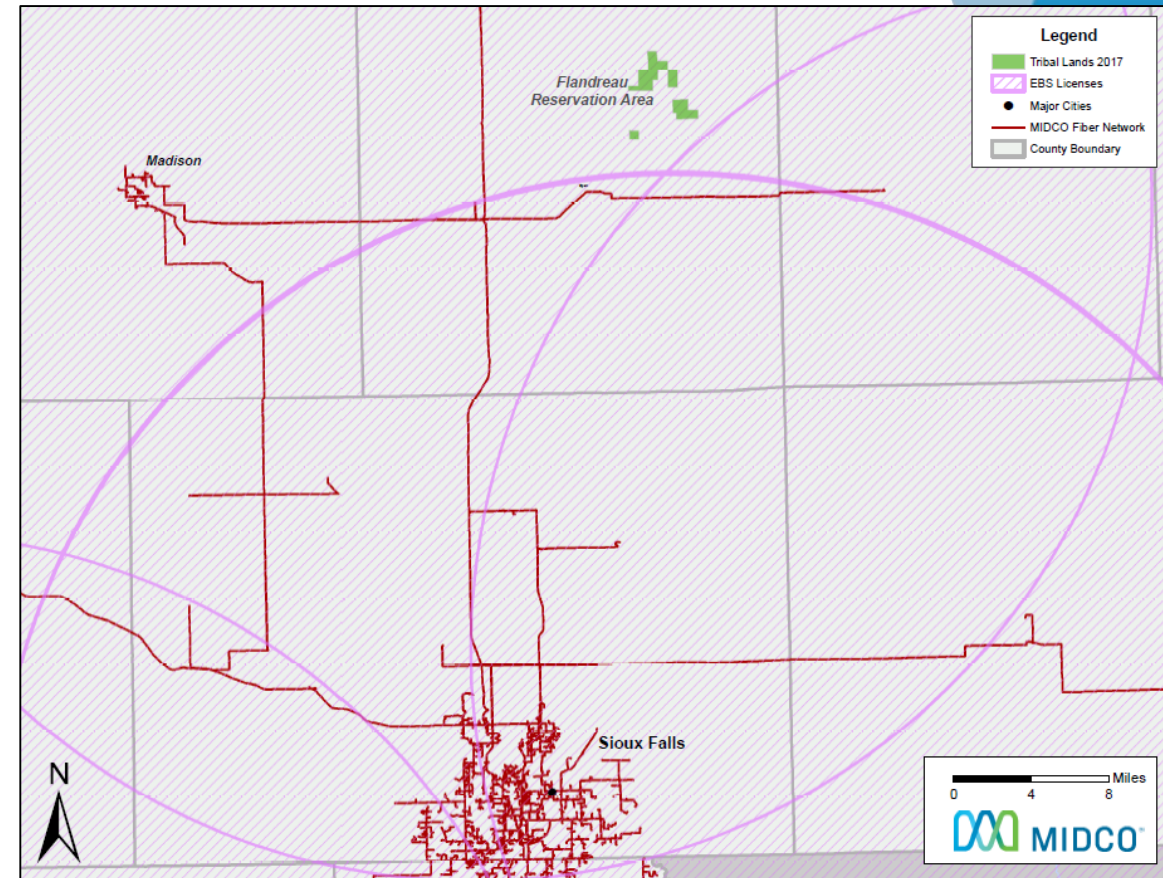
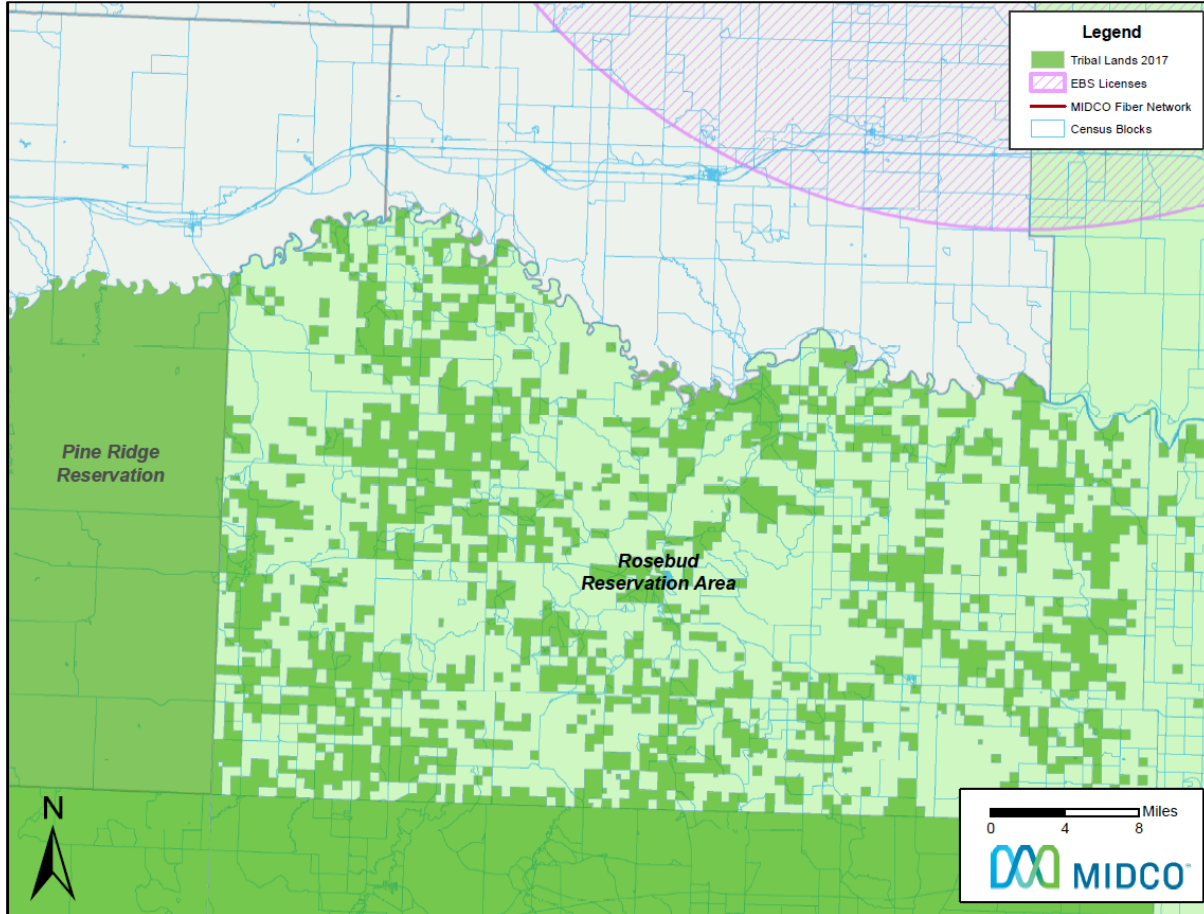


- Irregularly-shaped white spaces
- Difficult to engineer
- Less attractive for a commercial auction

Pragmatic Considerations Cont.



White Space Limitation

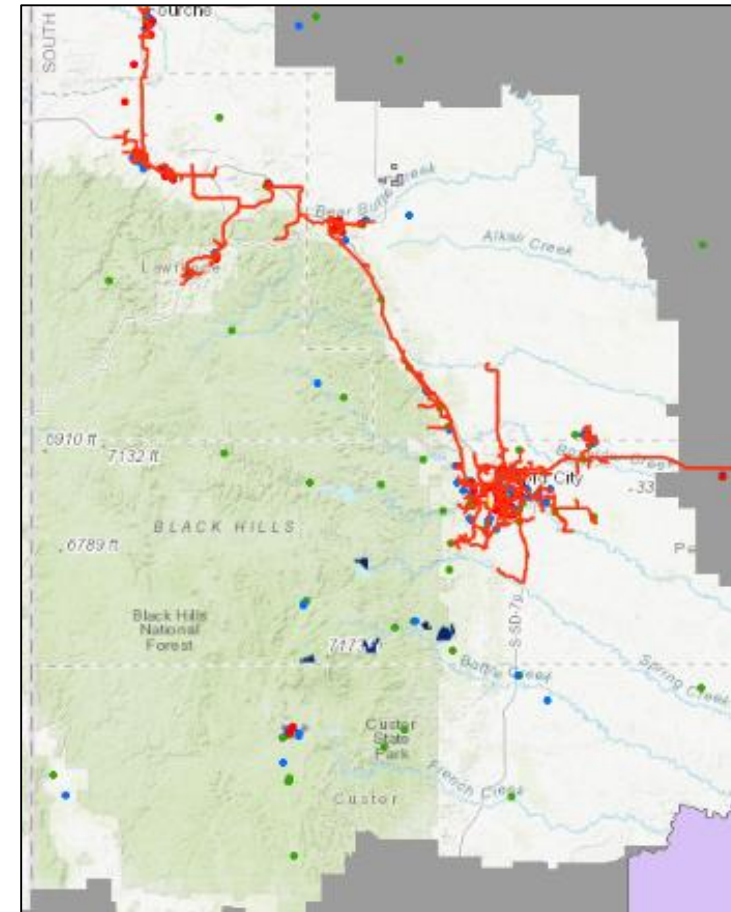


Competitive Auction

- 75% to 80% rationalization on counties
- No local priority windows
- Spectrum limit at auction of 63 MHz, such as:
 - A1-A3 and B1-B3 – 33 MHz of contiguous spectrum in lower band
 - C1-C3 and D1-D3 – 33 MHz of contiguous spectrum in lower band
 - A4, B4, C4, D4, and G4 – 30 MHz of contiguous spectrum in middle band
 - G1-G3 – 16.5 MHz of contiguous spectrum in upper band

Educational Support

- Deposit auction funds in a Homework Gap fund
- Require E-rate participation or other service for educational institutions
- 2.5 GHz band could serve critical, educational, and healthcare sites



Contact Information

Nicole Tupman

Assistant General Counsel

nicole.tupman@midco.com

605-275-6610

Justin TerWee

Network Engineer – Professional

justin.terwee@midco.com

218-843-1201

